DRAFT RULE AMENDMENTS
DANGEROUS WASTE REGULATIONS – CHAPTER 173-303 WAC
MARCH 2004

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SECTION 4
Draft Rule Language for Universal Waste Mercury-Containing Equipment

Ecology is proposing to add dangerous waste mercury-containing equipment to the universal waste rule. This proposal is limited to waste devices containing mercury that are dangerous because they exhibit one or more of the characteristics or criteria of dangerous waste, primarily for mercury. Mercury-containing equipment is defined as a device or part of a device (excluding batteries, thermostats and lamps) that contains elemental mercury necessary for its operation.

Mercury-containing equipment is widely generated throughout Washington, most often by electrical and gas utilities, but also by many other entities using mercury-containing equipment to measure or regulate temperature, pressure or electricity. This includes manufacturing industries, retail and commercial establishments, office buildings, hospitals, municipalities and domestic households.

On June 12, 2002, EPA proposed a rule where mercury-containing equipment can be managed as universal waste. Their proposal came as a result of a 1996 petition by the Utility Solid Waste Activities Group to add mercury-containing equipment to the universal waste rule. This petition identified several kinds of instruments that are used throughout the electric and gas utilities and by a wide universe of other users, as described above. A few examples include relay switches, mercury regulators, manometers, barometers, pressure relief gauges, sprinkler system contacts, and temperature gauges. This equipment often contains a few grams of mercury, enough to be classified as a D009 characteristic dangerous waste.

Ecology agrees with EPA that the streamlined management requirements for universal waste will increase collection and recycling of mercury-containing equipment, thus reducing the amount of mercury reaching municipal landfills. The Washington State Mercury Chemical Action Plan (MCAP) recommends adding mercury-containing equipment to the universal waste rule. In addition, public comments on the MCAP encouraged Ecology to consider adding mercury-containing wastes to the universal waste rule.
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Even though many entities use mercury-containing equipment, individually they generate this waste sporadically, and in small amounts. Generators who choose to manage their mercury-containing equipment as universal waste do not have to count it as generated waste or use a dangerous waste manifest for transport. Also, universal waste can be accumulated for up to a year, facilitating the collection and shipment to a consolidation handler or recycler. Universal waste is not counted as generated waste; therefore, businesses that only generate universal waste may benefit from this rule by avoiding becoming a fully regulated generator. Small quantity universal waste handlers are not even required to obtain an identification number. All of these factors will greatly enhance the recycling of mercury-containing equipment.

As universal waste, mercury-containing equipment will be managed in a similar manner to thermostats, since many of these devices contain mercury ampules that are sometimes removed. The waste management standards are the same for both thermostats and for mercury-containing equipment. The relative risks posed by managing this waste are low when managed according to the universal waste standards. Generally, a small number of these devices are generated at any one time by each generator, reducing the chance of mercury spills. Also, because the elemental mercury is usually fully enclosed within the equipment, the danger of leaks and spills during accumulation and transport is low. Under universal waste provisions, employers must provide employee training on proper handling and clean-up procedures.

Inclusion of mercury-containing equipment into the universal waste rule will encourage proper collection and management of this equipment. Also, the total amount of mercury entering the municipal solid waste stream will be reduced as people take advantage of simplified compliance through the universal waste provisions. The relative low risk of managing mercury-containing equipment as universal waste and the increased recycling of these wastes are compelling reasons for including it as a universal waste.

WAC 173-303-040 Definitions.

"Large quantity handler of universal waste" means a universal waste handler (as defined in this section) who accumulates 11,000 pounds or more total of universal waste (batteries, thermostats, mercury-containing equipment, and lamps calculated collectively) and/or who accumulates more than 2,200 pounds of lamps at any time.

“Mercury-containing equipment” means a device or part of a device (excluding batteries, thermostats, and lamps) that contains elemental mercury necessary for its operation. Examples of mercury-containing equipment include thermometers, manometers, and electrical switches.

"Small quantity handler of universal waste" means a universal waste handler (as defined in this section) who does not accumulate 11,000 pounds or more total of universal waste (batteries, thermostats, mercury-containing equipment, and lamps, calculated collectively) and/or who does not accumulate more than 2,200 pounds of lamps at any time.

"Universal waste" means any of the following dangerous wastes that are subject to the universal waste requirements of WAC 173-303-573:

; and Mercury-containing equipment as described in WAC 173-303-573(4)

WAC 173-303-077 Requirements for universal waste.
; and (4) Mercury-containing equipment as described in WAC 173-303-573(4).

WAC 173-303-400(2)(c) Interim status facility standards.
(xi) Universal waste handlers and universal waste transporters…
(C) Mercury-containing equipment as described in WAC 173-303-573(4)
(D) Lamps as described in WAC 173-303-573(5)

WAC 173-303-573 Standards for universal waste management. (1)(Scope)
(a)(iii) Mercury-containing equipment as described in subsection (4) of this section; and
(iv) Lamps as described in subsection (5) of the section.

573(4) Applicability- Mercury-containing equipment.
(a) Mercury-containing equipment covered under this section. The requirements of this section apply to persons managing mercury-containing equipment, as described in WAC 173-303-040, except those listed in (b) of this sub-section.
(b) Mercury-containing equipment not covered under this section. The requirements of this section do not apply to persons managing the following mercury-containing equipment:
(i) Mercury-containing equipment that is not yet a waste under WAC 173-303-016, 173-303-017, or 173-303-070. Paragraph (c) of this sub-section describes when mercury-containing equipment becomes a waste.
(ii) Mercury-containing equipment that is not a dangerous waste. Mercury-containing equipment that does not exhibit one or more of the characteristics or criteria identified in WAC 173-303-090 or 173-303-100 is not dangerous waste.
(c) Generation of waste mercury-containing equipment.
(i) Used mercury-containing equipment becomes a waste on the date it is discarded.
(ii) Unused mercury-containing equipment becomes a waste on the date the handler decides to discard it.

573(9) Waste Management
(b) Universal waste thermostats and mercury-containing equipment.
A small quantity handler of universal waste must manage universal waste thermostats and mercury-containing equipment in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:
(i) A small quantity handler of universal waste must place in a container any universal waste thermostat or mercury-containing equipment that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the thermostat or device, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.
(ii) A small quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats or mercury-containing equipment provided the handler:
(A) Removes the ampules in a manner designed to prevent breakage of the ampules;

(B) Removes ampules only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);
(C) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container that meets the requirements of WAC 173-303-200;
(D) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of WAC 173-303-200;
(E) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;
(F) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;
(G) Stores removed ampules in closed, non-leaking containers that are in good condition;
(H) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation; and
(iii)(A) A small quantity handler of universal waste who removes mercury-containing ampules from thermostats or mercury-containing equipment must determine whether the following exhibit a characteristic or criteria of dangerous waste identified in WAC 173-303-090 or 173-303-100:
(I) Mercury or clean-up residues resulting from spills or leaks; and/or
(II) Other solid waste generated as a result of the removal of mercury-containing ampules (e.g., remaining thermostat units or mercury-containing equipment).
(B) If the mercury, residues, and/or other solid waste exhibit a characteristic or criteria of dangerous waste, it must be managed in compliance with all applicable requirements of this chapter. The handler is considered the generator of the mercury, residues, and/or other waste and must manage it subject to WAC 173-303-170 through 173-303-230.
(C) If the mercury, residues, and/or other solid waste is not dangerous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

573(10)Labeling/Marking
(c) Mercury-containing equipment, or a container in which the equipment is contained, must be labeled or marked clearly with any of the following phrases: “Universal Waste Mercury-Containing Equipment,” or “Waste Mercury-Containing Equipment,” or “Used Mercury-Containing Equipment.”
(d)Universal waste lamps...

573(11)(c)(ii)
(11)Accumulation time limits.
(ii) Marking or labeling the individual item of universal waste (for example, each battery, thermostat, mercury-containing equipment, or lamp) with the date it became a waste or was received;

573(19) Notification.[(b)(iv) and (b)(v)]

(iv) A list of all of the types of universal waste managed by the handler (e.g., batteries, thermostats, mercury-containing equipment, or lamps);
(v) A statement indicating that the handler is accumulating more than 11,000 pounds of universal waste at one time and the types of universal waste (e.g., batteries, thermostats, mercury-containing equipment, or lamps) the handler is accumulating above this quantity, and/or a statement indicating that the handler is accumulating more than 2,200 pounds of lamps at one time. (For example, if a handler is accumulating 4000 pounds of batteries, 4,500 pounds of thermostats, 2,000 pounds of mercury-containing equipment and 600 pounds of universal waste lamps, they would notify for having 11,100 pounds of universal waste at one time - likewise, if a handler is accumulating 1,000 pounds of batteries, 4,000 pounds of thermostats, 2,000 pounds of mercury-containing equipment and 2,400 pounds of universal waste lamps, they would also need to notify for exceeding the 2,200 pound limit for universal waste lamps.)

573(20) Waste Management.
(b) Universal waste thermostats and mercury-containing equipment. A large quantity handler of universal waste must manage universal waste thermostats and mercury-containing equipment in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:
(i) A large quantity handler of universal waste must place in a container any universal waste thermostat or mercury-containing equipment that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the thermostat, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.
(ii) A large quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats or mercury-containing equipment provided the handler:
(A) Removes the ampules in a manner designed to prevent breakage of the ampules;
(B) Removes ampules only over or in a containment device (e.g., tray or pan sufficient to contain any mercury released from an ampule in case of breakage);
(C) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container that meets the requirements of WAC 173-303-200;
(D) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of WAC 173-303-200;
(E) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;
(F) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;
(G) Stores removed ampules in closed, non-leaking containers that are in good condition;
(H) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation; and
(iii)(A) A large quantity handler of universal waste who removes mercury-containing ampules from thermostats or mercury-containing equipment must determine whether the following exhibit a characteristic or criteria of dangerous waste identified in WAC 173-303-090 or 173-303-100:

(I) Mercury or clean-up residues resulting from spills or leaks; and/or
(II) Other solid waste generated as a result of the removal of mercury-containing ampules (e.g., remaining thermostat units or mercury-containing equipment).

573(21) Labeling/Marking
(c) Mercury-containing equipment, or a container in which the equipment is contained, must be labeled or marked clearly with any of the following phrases: "Universal Waste Mercury-Containing Equipment," or "Waste Mercury-Containing Equipment," or "Used Mercury-Containing Equipment."
(d) Universal waste lamps...

573(22) Accumulation time limits.
(c)(ii) Marking or labeling the individual item of universal waste (for example, each battery, thermostat, mercury-containing equipment, or lamp) with the date it became a waste or was received;

573(26) Tracking universal waste shipments. [(a)(ii) and (b)(ii)]
(a)(ii) The quantity of each type of universal waste received (for example, batteries, thermostats, mercury-containing equipment, or lamp) with the date it became a waste or was received;
(b)(ii) The quantity of each type of universal waste sent (for example, batteries, thermostats, mercury-containing equipment, or lamps);

573(37) Tracking Universal waste shipments
(a)(ii) The quantity of each type of universal waste received (for example, batteries, thermostats, mercury-containing equipment, or lamps);

WAC 173-303-600(3) Final facility standards.
(o) Universal waste handlers and universal waste transporters…
(iii) Mercury-containing equipment as described in WAC 173-303-573(4)
(iv) Lamps as described in WAC 173-303-573(5)

WAC 173-303-800(7)(c) Permit requirements for dangerous waste management facilities.
(iii) Universal waste handlers and universal waste transporters…
(C) Mercury-containing equipment as described in WAC 173-303-573(4)
(D) Lamps as described in WAC 173-303-573(5)

Justification for Adding Mercury-containing Equipment to Universal Waste Rule

Ecology is proposing to add dangerous waste mercury-containing equipment to the universal waste rule. This proposal is limited to waste devices containing mercury that are dangerous because they exhibit one or more of the characteristics or criteria of dangerous waste, primarily for mercury. Mercury-containing equipment is defined as a device or part of a device

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Inclusion of mercury-containing equipment into the universal waste rule will encourage proper collection and management of this equipment. Also, the total amount of mercury entering the municipal solid waste stream will be reduced as people take advantage of simplified compliance through the universal waste provisions. The relative low risk of managing mercury-containing equipment as universal waste and the increased recycling of these wastes are compelling reasons for including it as a universal waste.